REMARKS/ARGUMENTS

Reconsideration is respectfully requested of the Official Action of February 22, 2006, relating to the above-identified application.

A request for a two-month extension of time, together with the associated fee, is filed herewith.

The rejection of Claims 30-32 and 35-38 as allegedly anticipated or rendered obvious in view of the patent of *Schuetz* (US 5,536,694) is traversed and reconsideration is respectfully requested.

The present invention relates to a Raney copper catalyst with an average particle size of from 5 μm to 65 μm which is doped with at least one doping metal selected from the group consisting of iron and/or noble metals. The noble metal can be any one of palladium, platinum, gold, rhenium, silver, iridium, ruthenium or rhodium. The catalyst is further characterized by at least one of mesopores or macropores but no micropores.

The claims have been rejected in view of the *Schuetz* patent which is assigned to the same assignee as herein. The reference shows that Raney catalysts can range in size from 10 to 500 μm; see col. 5, lines 59-61. Specific examples of Cu/Al alloys are shown in col. 7, lines 25-52.The cited reference contains a myriad of possibilities in terms of active metals, binders, doping materials and additional components. Thus, the *Schuetz* patent teaches that the preferred Raney process metals are nickel, copper, cobalt or iron and the leachable alloying components used are aluminum, zinc or silicon; see col. 3, lines 57-60 of the reference.

A large list of catalytic promoters or doping agents can also be present in the components of the reference. Listed in col. 6, lines 5-11 are chromium, iron, cobalt, tantalum and

molybdenum, as well as members from the platinum group of metals. Similarly, the nature of the catalyst of the reference can vary depending on the pore structure and pore volume. By suitable selection of pore producing additives the pore structure can vary widely; see col. 4, lines 57-63. At least one binder is called for by the reference; see col. 3, lines 27-30. The binder can be nickel, cobalt, copper or iron; see col. 4, lines 3-6.

According to col. 10, lines 36-41, the shaped activated fixed bed catalyst can be used for the hydrogenation of nitro groups, the hydrogenation of carbon to carbon double bonds, as well as the hydrogenation of sugars and hydrogenation of aromatic rings.

The reference does not disclose that the shaped Raney fixed bed catalyst can be used for the catalytic dehydrogenation of alcohols to form the corresponding carbonyls and carboxylic acids. It is clear that the reference has a great number of possibilities of combinations and permutations. The Official Action is based on a picking and choosing from those many elements in an attempt to meet the terms of the claims of this application without any suggestion in the reference that a beneficial result or advantage would be obtained by making the specific choices to define the subject matter of the claims in the present invention. Thus, applicants respectfully submit that the rejection has been based on viewing the reference in hindsight of what is shown in the present application. The present invention resides in the selection of only a specific Raney copper catalyst doped with iron and/or noble metals. This specific catalyst shows better results in the dehydrogenation of alcohol than a Raney copper catalyst doped with chromium; see for example, Example 5 of the application. Chromium is mentioned as a doping metal in the *Schuetz* patent at col. 6, line 6.

Further comparative data is shown in Comparative Example 5 herein where the Raney copper consisting of 50% copper and 50% aluminum is doped with chromium which has an activity for dehydrogenating ethylene glycol of 253 ml of hydrogen per hour per gram of catalyst.

The undoped catalyst, according to Comparative Example 4, shows an activity of only 205 ml of hydrogen per hour per gram of catalyst.

In contrast, the catalyst according to the invention shows an activity for the dehydrogenation of ethylene glycol of 299 mls of hydrogen per hour per gram of catalyst; see Example 3.

Thus, the comparative data of record in the application show that the catalyst according to the invention demonstrates unexpectedly improved results which could not have been predicted from consideration of the *Schuetz* patent. New Claim 39 is specifically directed to the catalysts described in Examples 3 and 7.

Moreover, on page 2, lines 26-28 of this application, it is mentioned that the Raney copper according to the invention exhibits greater activity in the dehydration of ethylene glycol than the chromium Raney copper according to US Patent 5,292,936. This is proved by Comparative Example 6, contained in the present application. The Raney copper catalyst doped with Vanadium shows an activity of 253 ml of hydrogen per hour per gram of catalyst. In contrast, the catalyst according to the invention shows an activity of 299 ml of hydrogen per hour per gram of catalyst; see Example 3 on page 7. These results show a demonstrated superiority of the catalyst of the invention which could not have been predicted from a consideration of the reference. Accordingly, it is respectfully submitted that the rejection of all the claims in the

application, either under the ground of obviousness or anticipation, is not well considered and should be withdrawn.

Applicants also confirm that all currently named joint inventors were employed at the time the inventions were made.

Favorable action at the Examiner's earliest convenience is respectfully requested.

Respectfully submitted,

SMITH, GAMBRELL & RUSSELL, LLP

By: _____
Robert G. Weilacher, Reg. No. 20,531

Date: July 24, 2006
Suite 3100, Promenade II
1230 Peachtree Street, N.E.
Atlanta, Georgia 30309-3592
Telephone: (404) 815-3593
Facsimile: (404) 685-6893